IN THE CIRCUIT COURT OF THE STATE OF OREGON
FOR THE COUNTY OF MULTNOMAH

THE ESTATE OF MICHELLE SCHWARZ, deceased, by and through her Personal Representative, RICHARD SCHWARZ,	)	
Plaintiff,	)	Circuit Court
vs.	)	Case No. 0002-01376
PHILIP MORRIS INCORPORATED, a foreign corporation, and ROTHS I.G.A. FOODLINER, INCORPORATED, an Oregon corporation,	)	
Defendants.	)	

TRANSCRIPT OF PROCEEDINGS
Volume 25-A

BE IT REMEMBERED, That the above-entitled matter came on regularly for Jury Trial and was heard before the Honorable Roosevelt Robinson, Judge of the Circuit Court of the County of Multnomah, State of Oregon, commencing at 9:10 a.m., Tuesday, February 12, 2002.

http://legacy.library.ucsf.edu/tid/exp35a00/pdf
Source: http://www.tobaccoindustrydocuments.ucsf.edu/docs/hpxd0001

APPEARANCES:

Mr. D. Lawrence Wobbrock, Attorney at Law,
Mr. Charles S. Tauman, Attorney at Law,
Appearing on behalf of the Plaintiff;

Mr. James L. Dumas, Attorney at Law,
Mr. John W. Phillips, Attorney at Law,
Appearing on behalf of Defendant
Philip Morris, Incorporated and Defendant
Roths I.G.A. Foodliner, Incorporated;

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MORNING SESSION
Tuesday, February 12, 2002
9:10 a.m.

(Court was reconvened at 9:10 a.m.)

THE COURT: Good morning.

Hope we have all the technical problems worked out.

THE COURT REPORTER: I'm sorry. We do now.

THE COURT: No problem. We have modern technology. It comes with it its own concerns.

Counsel?

MR. WOBBROCK: Your Honor, I don't think anybody has been prejudiced up to this point, but we would ask that the rule about witnesses listening to each other's testimony be invoked. Therefore, I would ask that Dr. Burns be out in the hallway on this -- I guess it's cross-examination of Dr. Whelan. And that's all the matters I have this morning.

THE COURT: All right. So ordered.

Bring the jury, please.

MR. PHILLIPS: Your Honor --

THE COURT: All right. Just a moment.

MR. PHILLIPS: Just to be clear, I raised the

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issue of exclusion of all witnesses with counsel sometime ago. He carved out the exception with respect to his client representing all the family members, and Mrs. Chuck-Dye. And that also applies to Philip Morris client representatives. But other than that, we agree to exclude witnesses.

THE COURT: Very well.

(Jury entered the courtroom at 9:10 a.m.)

THE COURT: And the Court would expect the assistance of counsel because I can't look back there and tell who is not a witness. You will have to notify the Court and inform the Court.

All right.

Good morning, members of the jury.

JURORS: Good morning.

THE COURT: Hope you had a good evening, good night sleep and you're alert and ready to go again. If you are, we will proceed.

Counsel, you may proceed with your questions.

MR. PHILLIPS: Thank you, Your Honor.

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(DR. ELIZABETH WHELAN resumes the witness stand through reading of transcript testimony)

CROSS EXAMINATION (continued)

BY MR. PHILLIPS:

Q Approximately 15 to 20,000 nonsmokers in the US are reported as developing lung cancer ever every year, right?

A That's correct. About 10 percent, I usually think about 165,000 cases of lung cancer. So that would be in the ballpark are nonsmokers, or possibly they're even ex-smokers. There's a little confusion there.

Q You told the jury that 90 percent of the people who have cancer are smokers or former smokers, right?

A 90 percent of lung cancer is causally linked with smoking, and a balance of eight or 10 percent does not seem to have a smoking history, or at least a smoking history is denied. There is also the question of exposure to environmental smoke, which may account for a small -- a very small portion of that balance.

Q We could spend a lot of time talking about ETS, but there is really -- that is really not in this case. So let's move on to some other things, okay?

And just so there's no question, the people that have cancer, you say, 90 percent of them are smokers; right?

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A Let's be specific. You said "cancer".
Q Lung cancer. I apologize. Lung cancer.
A Lung cancer mortality in the United States, 90 percent occurs in cigarette smokers.
Q Now, it's true -- so there's no confusion -- that only 10 percent of smokers get lung cancer, right?
A I have to answer that, again, in context. In a lifetime, 10 percent of smokers have lung cancer. But in a lifetime, smokers develop extraordinary rates of other diseases, so we can't leave the impression that 90 percent get off scot-free with disease because that is not the case. Lung cancer is only one of the many diseases. Heart disease is the really more serious problems -- problem in terms of total mortality from smoking.
Q Well, we'll come back to that.
But it is not a matter of getting off scot-free. The point is, in this case, the decedent had lung cancer, did you know that?
A Yes, I did.
Q I want to talk about lung cancer because that's the disease in this case, all right?
A That's fine, but I need to put my answers in context.
Q I appreciate that. The jury does, too.
The fact is, nine out of ten smokers don't get

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lung cancer, right?
A In terms of all smokers who are exposed for a variety of different time periods and different years and the number is about 10 percent that develop lung cancer, but there are competing risks. We always have to remind you of that -- remind us of that.
Q So nine out of ten smokers don't get lung cancer can right?
A Yes.
Q Asbestos is a risk factor for lung cancer, right?
A I would clarify that. Long term, high dose, occupational exposure, particularly in the presence of cigarette smoking, is a risk factor for lung cancer.
Q The US Environmental Protection Agency estimates that radon causes 14,000 cancer deaths a year, right?
A Yes. And I totally disagree with that. That is a baseless estimate.
Q The EPA says it's true.
A It's believed practically nothing that the EPA says.
Q How about the California EPA; do you believe what they say is true?
A I am not familiar with them.
Q California Environmental Protection Agency has declared that diesel exhaust is a human lung carcinogen, did

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you know that?
A I am aware that in California everything is a carcinogen. If you're aware of Proposition 65 which is a law that says anything what causes cancer in any animal, in any laboratory, in any dose, is considered a carcinogen, and it's put on the label. So it's all -- it doesn't matter. Everything causes cancer in California under the law.
Q The National Toxicology Program by the US Department of Health and Human Services in December of 1998, four months ago, reviewed the existing epidemiological data and reported that diesel exhaust exposure was associated with increased risk of lung cancer in humans; were you aware of that?
A No. I am very surprised to hear that because the National Toxicology Program is based on toxicology, which is based on rodents. Their specialty is not observing human population.
Q In a section entitled Human Studies, the majority of studies reviewed found statistical association with diesel exhaust exposure and lung cancer. The final results of these studies reviewed by IAROC. That's -- that's what?
A International Agency on Research on Cancer.
Q And those published since then, nine of 14 cohort studies, and 12 of 17 case control studies, found that diesel exhaust exposure was associated with increased risks

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of lung cancer.

Based on that evidence, do you believe diesel exhaust causes lung cancer?

A I am not familiar with the diesel exhaust lung cancer epidemiology, but I know it is very, very insignificant. It is not a significant factor in the causation of lung cancer in the United States. As I said, 90 percent is caused by smoking. It doesn't leave too much left -- excuse me -- doesn't leave too much left for much of anything else.

Q Let me ask you this. If there is nine of 14 cohort studies -- what is a cohort study?

A A cohort study is a prospective study that looks at a group of non diseased individuals and follows them and sees what diseases they developed.

Q That's the Gold Standard you talked about, right?

A That is a prospective study, yes.

Q And in 12 of 17 case controlled studies, what are those case controlled studies?

A The case controls are the ones we discussed before, the retrospective ones where people start with the disease and you see what portion are exposed to the element.

Q So next are the retrospective study, like Wynder, Hill and Graham, right?

A Yes.

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Q And so it's true, according to the National Toxicology Program of the US Department of Health and Human Services, that there are nine of 14 prospective Gold Standard studies, and 12 of 17 of these retrospective studies say there is an increased risk in association between smoking and lung cancer than that is evidence to indict, in your view, diesel exhaust as a cause of lung cancer, right?

A I'm an epidemiologist. I am familiar with cancer. I have never seen these studies. And by the way, I would suspect that they would be very contaminated with smoking, as many of these occupational chemical studies are. You can't separate out.

For example, men who work with asbestos have a somewhat increased risk of lung cancer. It's a five-fold increase. Men who smoke but don't do asbestos work have a tenfold increase, as we discussed. But if you put the two together, it is a 68-fold increase risk. Again, this is high dose, long term exposure.

Q Back to diesel exhaust. These studies did control for smoking.

A As I said to you, I am not familiar with these studies. But I do know that the bottom line here is that 90 percent of cancer of the lung is causally linked to smoking this year and for the past few decades.

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Q Well, here is one bottom line. Diesel exhaust is a complex mixture of combustion products and diesel fuel, right? Diesel exhaust, diesel fuel, goes through a car and you get diesel exhaust, right?
A Its's not my area.
Q Amico, Chevron, Exxon, Mobile Oil, Shell Oil Company, all make diesel fuel, right?
A It could be. I said that I am not familiar with diesel fuels or their manufacturer.
Q It's true, isn't it that Amico, Exxon, Shell, Mobile, all give your organization funding?
A Yes, they make modest contributions in the area of 5,000 to $10,000 each. I didn't even know they were involved specifically in diesel oil. We don't comment on that issue.
Q Counsel showed you had a document about Council of Tobacco Research that characterized it as a "front". Do you remember that?
A I do.
Q The fact is, your organization, the ACSH, has been characterized as a front, hasn't it, Doctor?
A Yes. The Ralph Nader organization does not know how to deal with us. They regularly call us a front for special interest groups, which we are not.
Q Well, what Ralph Nader says is that your

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organization takes money from corporate America, right?
A Yes.
Q And he says that your organization views are consistent with your contributors and financial interests and not necessarily good science, right?
A That is -- this is what Mr. Nader thinks. But Mr. Nader and I agree on nothing, so I think that regarding the causation of human disease, he, for example, does not talk about smoking and tends to blame trace levels of pollutants for disease instead.
He brought up my funding, and the American Council on Science and Health were primarily funded by private foundations. Our largest funder ask Robert Wood Johnson Foundation, and we accept only unrestricted gifts.
Q Allied Signal provides funding?
A No, they don't, actually.
Q I got it from the Internet. So it may be incorrect. American Signet (ph)?
A They don't exist any more. That is probably an old list.
Q Amico?
A I don't think Amico funds us, either.
Q Boise Cascade?
A They do not fund us.
Q Ashland Oil?

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A No.
Q Bristol Myers?
A Yes.
Q Chevron?
A No.
Q Siga Geibe (ph)?
A Yes.
Q Consolidated Edison?
A No. This list is about 400.
Q Who put the list in?
A I don't know. I didn't.
Q Would it come from your organization?
A I think so, yes. But it is probably five or ten years old, and these companies come and go, and they also get merged.
Q You talked about one of the goals of your company was to separate the ants from the elephants when it comes to public health, is that fair?
A That is correct.
Q And it's true, isn't it, that some experts believe that cancer rates are inflated or exaggerated in this country by a significant number of over-diagnosis, isn't that true -- or, is that true?
A Could you repeat the first part of the question; cancer rates?

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Q Certain experts believe -- and I'll tell you, I'm readings from the Complete Guide to Prevent Cancer by Elizabeth Whelan, quote: Some experts believe that current cancer rates are inflated or exaggerated by a significant number of over-diagnosis, unquote.

MR. TAUMAN: Counsel, can I have the exhibit number there, please?

You know, Your Honor, I'm going to have to object. This is the third time that counsel has shown a document for the jury to see that's not on their exhibit list, and counsel knows it.

I object to this one, and I move that this and the other documents that have been shown be stricken from the record and the jury be instructed to disregard any document that is not on the exhibit list in evidence.

THE COURT: All right. We'll take that up later.

But right now, counsel, stick with the exhibit list.

MR. PHILLIPS: You bet, Your Honor. Thank you.

Did I complete a question before the interruption? I'm not sure I did.

THE WITNESS: Well, I forgot.

BY MR. PHILLIPS:

Q Let me just read the quote I was reading to you.

Some experts believe that current cancer rates are

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inflated or exaggerated by a significant number of over-diagnosis, unquote; is that right?

A I think I wrote that book a long time ago. But what I may have been referring to is that the increased use of various screening tests -- for example, the PSA, prostate cancer -- is coming up with a large number of men with so-called prostate cancer, but they never die of it. So that includes the incidents. That's what I was speaking of, I think.

Q And that's a fair point.

A Mammogram is the same thing, with breast cancer.

Q What you're talking about, then, I guess, is different methods of determining whether, in fact, someone has cancer, right?

A And different definitions of cancer.

Q You would agree, would you not, that the best -- well, let's talk about death certificates.

Would you agree that even when exact type of cancer is detected while the patient is alive, the correct information about that person's disease or cancer may not appear on the death certificate?

A I am not able to speak to, really, the classification on the death certificate. But there are means of gathering data on disease trends and disease prevalence that do not involve death certificates. And

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these involve surveys the government does on the frequency of disease and changes in trends.

Q Did you write the Complete Guide to Preventing Cancer by Elizabeth Whelan?

A I did.

Q And I'll show this to you, but did you write on page 52, quote: Even when the exact type of cancer is detected while the patient is alive, the correct information may not appear on the death certificate, unquote?

A That could be. I certainly -- there could be different entries in the death certificate. But as I said, disease trends don't necessarily rely just on death certificates.

Q Are you familiar with the recent studies that show there are some autopsy studies that show that when it comes to cancer, the treating doctor gets it wrong nearly half the time?

A The treating doctor? No.

Q Have you read the studies in the Journal of the American Medical Association that say basically about half the time, the doctor either misses the cancer or misdiagnoses the cancer?

A I couldn't even begin to answer that question because if cancer is so many different diseases, it wouldn't apply. The same thing wouldn't apply to lung cancer if it

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wouldn't apply to leukemia or prostate cancer.
Q And you're not familiar with the study?
A No.
Q We were talking about the sort of evidence at the time of The Frank Statement, and you were critical, I think it is fair to say, of the reference to animal studies in the first sentence. Is that correct; is that right?
A Yes.
Q Is that because you think that animal studies are probably not the best evidence in determining the cause of human cancer?
A I think. I do believe I have answered that, and my response has been that in themselves, they most definitely are not good predictors of human cancer risk. But in the context of human epidemiology, they can provide some additional data.
Q In fact, you wrote an article, quote, Stop Banning Products at the Drop of a Rat, unquote. Do you remember that one?
A I think so.
Q Let's talk about percentages. The jury -- excuse me.
It's true, isn't it, that there are many naturally occurring carcinogens in the food we eat, the air we breathe and the water we drink, right?

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A We really have to define what a carcinogen is in that context. A carcinogen is defined as a chemical at high dose, can cause -- that can cause cancer in a laboratory animal. And using that definition, a lot of natural foods have chemicals that cause cancer in laboratory animals, like mushrooms have hydrozenes (ph) which are carcinogens in animals. Peanut butter is loaded with aflatoxin, which is a very potent animal carcinogen. So these are naturally occurring things, and they do not harm our health because they're there in low dosages, courtesy of Mother Nature.

Q Well, you anticipated my question, but let me make sure that I back up and make sure I follow you.

A carcinogen is something that causes cancer, right?

A And there are two -- but, yes, it causes cancer. But you have to precede it with animal or human.

Q We'll get to that.

A Okay.

Q But as a general matter, a carcinogen is something that causes cancer?

A Yes.

Q Now, the next issue is whether it is an animal carcinogen or a human carcinogen, correct?

A Correct.

Q Animal carcinogens cause cancer in animals, right?

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A An animal carcinogen may cause cancer in humans and vice versa.
Q May or may not?
A May or may not.
Q The fact that something causes cancer in animals doesn't necessarily mean it causes cancer in a human, right?
A Correct.
Q And, in fact, what you anticipated, the most important factor is the dose, right? The basic tenant of toxicology is that the poison is in the dose, right?
A Yes. But that not -- that does not apply to carcinogens necessarily because even some animal carcinogens, no matter what the human dose, would not cause human cancer.
Q Well, I guess the point I'm trying to make -- and maybe I'm asking it awkwardly -- before you are too revved up about being exposed to the carcinogen, you want to know is it human versus animal, and how much are you being exposed to, right?
A Yes, that is true.
Q Because the fact is that we're all exposed to carcinogens every day, right?
A We are, but there is another factor. That is potency.
Q And most of us never develop cancer, right?

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A One in four Americans develop cancer. So, yes, that's correct.
Q Three out of four don't?
A Correct.
Q Even though all four are exposed to carcinogens, correct?
A Animal carcinogens?
Q Everybody is exposed to carcinogens.
A Just animal carcinogens.
Q Okay. Everyone is exposed to animal carcinogens.
A Absolutely.
Q Probably everyone exposed to human carcinogens?
A Very few. The most commonly exposed human carcinogen that we're exposed to most everyday is sunlight. And we know that is a case of doses and poison to the human carcinogens that we do not get melanoma or skin cancer unless we get a high dose of it. But that is a common exposure, carcinogen, which is harmless in low doses. As a matter of fact, it is necessary for life.
Q I think we're saying the same thing. We're all exposed to carcinogen. It is the dose that's significant.
A If it is a human carcinogen, it is the dose that is significant. Yes.
Q You're saying if it is animal carcinogen, it doesn't even matter?

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A It may not matter, no.
Q You would have to really, really, really have a big dose, right?
A Or you would die from the amount of saccharin you have to ingest before you would get cancer.
Q In fact, you have taken great pains, haven't you, to point that out to the public?
A Great pains.
Q Quote: Don't flip out because you read a report that a mouse drops over from a carcinogen because it may or may not have any applicability to humans, unquote; right?
A Yes. And I am very, very agitated when one animal experiment is used to terrify people about cancer threats. For example, Alar on apples, we were told ten years ago, that caused cancer in children. There was no basis for that, and that was a tragic event, I think, because there was no basis for that. And I also worry that people will get distracted from the real causes of cancer, which we know is seven or eight different causes, one of the number of which is exposure to tobacco, primarily in cigarettes. And that is not based on math, but based on millions of human observations.
Q Based on epidemiology, right?
A Based on human observations.
Q You would agree, would you not, that public health

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officials often issue warnings to the public that something causes the disease before the science is really in, right?

A That is something called precautionary principle, which I am very perturbed when environmental groups do scare people about things before the evidence is in.

Q And the media frequently publicizes about possible hazards before the science is in, right?

A In isolated events in the basis of one study, and they might scare someone and say: You are going to get pancreatic cancer if you drink coffee twice a day. And all of a sudden that's the only study, and that is set aside. But these things come and go. There are scares, but they are mainly based on one animal test, and I think most Americans are getting more sophisticated and not falling for that any more.

Q The example you used was Alar, remember that?

A Correct.

Q That was ten years ago. And Meryl Streep and others were washing apples, didn't want to give them to their children, and it there was a big scare whether Alar on apples caused cancer?

A That's correct. And there was tremendous devastation over the Northwest on the loss of apple crops.

Q And you would agree that the media is pretty good about getting that information out, at least to the public.

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You may quibble whether it's accurate, but when there's a scare, the media gest it out to the public. Would you agree with that?

A They are great on hypothetical scares, yes. But they are becoming more responsible. They push hypothetical scares. They're not so good on maintaining our attention on the real things that matter.

Q In 1996, the Surgeon General issued a report called Physical Activity in Health, and estimated -- published estimates that 200,000 people die each year from lack of exercise. Are you familiar with that?

A I am.

Q If you combined lack of exercise with poor diet, the total climbs to 300,000 people a year, according to Surgeon General; is that right?

A The Surgeon General's Office, yes.

Q Do you buy that?

A No.

Q That's based on epidemiology, right?

A It is. But it's a different type of epidemiology. The amount of data we have about exercise and diet specifically causing disease is very much less. And I am more cautious about attributing numbers in that case. And I happen to disagree with those numbers.

Q But the Surgeon General said it, right?

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A I don't know if he or she said it. But it came from that office.
Q It was in that -- this whole report, quote, Physical Activity and Health Report of the Surgeon General, unquote, right?
A Uh-huh.
Q But the fact is, you disagree based on your understanding of the evidence?
A I disagree with the high numbers, yes.
Q You don't think dioxin is responsible for ill health, right?
A It's called ill health in rodents who were fed large doses of it. It has been studied intensely in humans who had accidental exposures to it other than a skin condition called chloracne. It has not been shown to cause long term health problems.
Q Do any -- you any PCBs in the environment cause little or no known hazard to human health, right?
A Trace level of PCBs, and you say, I think -- that's not what I think. I am here as a spokesman for an organization that reaches consensus statements. And our group having reviewed the literature has concluded that there is no evidence that trace exposures of PCB in the environment as ever caused any ill health.
Q I did not mean to misstate and personalize it, so

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if I say "you," we agree we're talking about ACSH.
Do you agree with all the positions of the ACSH?
A Yes, I do.
Q You and the ACSH think DDT and other pesticides cause little and no risk, right?
A You're correct, we do. And we agree with the international agencies that show that DDT has saved more lives than any chemical ever invented by man because it prevented malaria, and that pesticides, according to the National Cancer Institute do not contribute to the whole toll of human cancer. There are official statements on that, so these are mainstream views.
Q We've all heard about Agent Orange, the defoliant used in Vietnam. Doctor, you don't believe there is any science to justify claims of disease that Vietnam veterans report as exposure the Agent Orange, do you?
A Agent Orange is a highly emotional issue involving an unpopular war. There was no evidence ever from any studies that people exposed to high levels occupationally in Vietnam ever had any unusual risk of disease.
Q You wrote in 1995 that there is now scientific consensus that the Agent Orange flap was a red herring, right?
A I think that was the title, yes.
Q You even called it a travesty?

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A I was a scientific travesty.
Q Gulf War Syndrome, you don't think that exists, either, do you?
A It depends on how it is defined. There has never been any scientific evidence that there is an increased risk of disease in men and women who served in the Gulf. And, B, if there is, that is attributed to something else. I don't know of any evidence of that, no.
Q To put it in context, on August 14th, 1995, Hillary Clinton urged that no stone be left unturned to investigate the so-called Gulf War Syndrome. And you were quoted in USA Today as saying, quote: Despite claims by some Persian Gulf veterans, there is no scientific evidence that they have any pattern of illness other than symptoms of stress that can be causally linked to their military service in the Gulf.
Indeed, there are -- there not exists a substantial amount of analysis and data to justify a conclusion that there is no Gulf War Syndrome. No one can prove the validity of the allegations that have been made that nerve gas or unsafe vaccines caused ill health. Therefore, at this juncture, no more costly government studies are justified.
The Gulf War claims are reminiscent of those made by Vietnam veterans who maintain the chemicals in the

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defoliant Agent Orange caused a full spectrum of maladies, ranging from cancer and birth defects.

The Agent Orange saga began in the late 1970s when a switchboard operator at a Veteran's Administration Office began taking notes on calls coming in from veterans and their wifies, calls reporting illness and death. The operator brought her story to a Chicago television station, and the media attention soon became national. Veterans all around the country emerged to claim that chemicals in Vietnam had made them sick. Unquote.

With respect to those matters, Dr. Whelan, and your view, the government and the media have overwarned the public in the sense that the public believes and fears more than the science shows, right?

A Again, these are very highly emotional, complex issues. I always stick to the science aspect of it, but there are many other facets of stories involving war and exposure and health of veterans.

Q Well, didn't you say that, quote: No one can prove the validity of the allegations that have been made, so no more costly government studies are justified, unquote?

A Well, it's a matter of what a politician would say versus what a scientist would say.

Q Quote: Given our priorities and our limited resources, if there's no evidence, how long is one to keep

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pursuing something, unquote?
A Maybe there are political and other reasons for pursuing it that are not scientific.
Q Here is my point. The public and the White House are saying, quote, let's investigate this, unquote. The media was reporting it and the public was reading it and concerned about it, and you as a scientist at ACSH said, quote: There is no data. Don't worry about it.
A I was saying more than that.
Q Were you through with your answer?
A I am saying that there -- the studies, the investigations into whether there are unusual disease patterns in veterans groups did not yield any kind of information that would suggest that we should pursue it. There may be other reasons of dealing with the anxieties and the maltreatment and the unpopularity of these wars and the service of these men and women. But pointing to a disease that does not exist is not a good use of resources.
Q Does Monsanto and Dow Chemical still contribute to your organization, ACSH?
A Yes, this support us in a very minor level.
Q And do they make Agent Orange?
A No, they used to 30 years ago, but they don't any more. I think Dow did.
Q I think you told me that the evidence is

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approximately 10 percent of regular smokers will develop lung cancer, right?

A Approximately, yes.

Q You've testified in the past that consumers believe that six out of ten smokers will develop lung cancer, right, Doctor?

A I don't think I ever testified. I think there's a man named Kip Vancousy, or something of that sort, who has estimated that. You may have cited his work. I am not familiar with it. I don't know what people think about that.

Q Did you adopt Kip Vanocusy -- did you adopt his numbers?

A No, but maybe I was asked about them, whether I agreed that I heard about them. But I don't know that they're valid.

Q All right.

Page 341, line eight. Question: If you smoke, what are the odds -- what are the odds that you will get lung cancer? What does the ordinary person think?

Answer: They have -- statistically, they have actually an inflated view of the probability of smoking -- of a smoker getting lung cancer. While approximately 10 percent of regular smokers will develop lung cancer, I believe they may estimate 60 percent. I believe this is

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because they are unaware that death by cigarettes occurs by many, many other mechanisms and, indeed, lung cancer is not the most important mechanism of death by cigarettes. They are totally misinformed.

Your testimony, Doctor?

A Yes.

Q And I guess what I'm getting at is, I think we agree that's -- best number is 10 percent, but the public believes that six out of ten smokers get lung cancer, right?

A Possibly. I have not done surveys myself to know what they believe. It is my impression that they are unaware of the vast number of other maladies, and that they just -- they basically hear about lung cancer, but not the others.

Q I'm not trying to tie you to this testimony for all time. But at least when you gave these opinions, that was the information you had, that's the view you had?

A Yes. It was my impression.

Q Actual numbers, one in ten. Public perception is six in ten; right?

A That was my impression. Those are not our data that I swear by.

MR. PHILLIPS: That concludes the cross-examination, Your Honor.

THE COURT: Thank you, counsel.

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MR. TAUMAN: This will be very, very brief.
THE COURT: Very good, counsel.

REDIRECT EXAMINATION

BY MR. TAUMAN:

Q Dr. Whelan, let me start at the point of the discussion. Let's go back to tobacco and lung cancer for a moment, okay?

A Okay.

Q You were asked some questions about risk factor as a terminology, a term of art in epidemiology?

A Correct.

Q Is it appropriate to call something -- is calling something a "cause" a stronger level of association than calling something a "risk factor"?

A Somewhat, yes. But there are other factors, too, stronger and more dominant. I draw that connection again. Smoking is definitely a risk factor for a woman getting cervical cancer. But it is one of a number of things, including multiple sexual partners and related factors. So I would use the term "risk factor" there. Maybe it accounts for 20 or 25 percent of all cervical cancer as compared to 90 percent of lung cancer. So that is another factor.

Q Is it appropriate in your view as a scientist and

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epidemiologist to use the phrase "risk factor" when a toxic exposure increases the risk by ten times?

A No. Then you're getting to strains, and that's when I would, in many audiences, use the word "causes".

Q In fact, the Surgeon General in 1964, the Surgeon General's Report used the word "cause," too, didn't it?

A Yes. I believe they used it interchangeably. It varied between "risk factor" and "cause".

Q And on page 31 on the 1964 Surgeon General's Report, they said, quote: Cigarette smoking is causally related to lung cancer in men.

A Yes.

Q Quote: The magnitude of the effect of cigarette smoking far outweighs all other factors.

A Correct.

Q Let's see.

Quote: Increases the duration of smoking and the number of cigarettes, and is diminished by discontinuing smoking.

And here is what I was getting to, quote: In comparison with nonsmokers, average male smokers of cigarettes have a nine to tenfold increase of developing lung cancer, heavy smokers at least a 20-fold risk?

A Yes. That's correct. That's the difference between one pack a day and two packs a day.

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Q And given those associations, you wouldn't use the term like "risk factor" to describe the relationship between smoking and --

A Not in a lay population, no.

Q After the 1964 Surgeon General's Report, did Philip Morris or the Council for Tobacco Research, or the Tobacco Institute, change their tune about the relationship between smoking and cancer?

A No. They not only did not change their tune, but they tried to upstage the press conference of the Surgeon General in 1964 by having their own press conference prior to it to deny the conclusions of the report.

Q And you referred to that one report in the Oregonian this morning?

A Yes, that's correct.

Q Did Philip Morris look back on its position in hindsight and remodel its position at any time prior to the 1990s on that issue?

A No, they did not.

Q Okay. Maybe one last subject.

The Surgeon General's Report. I don't know exactly where in here, so I'm trying to look for it.

Counsel suggested that the 1964 Surgeon General's Report said that smoking was a habit and did not use the term "addiction" for it until 1988?

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A That's correct.
Q Are you familiar the terminology that Philip Morris finally used in the very recent times to describe smoking as a, quote/unquote, risk factor?
A Yes.
Q Are you familiar with the statement by the Chief Executive Officer, Jeffrey Bible, of Philip Morris in January of 1998 where he referred to -- he referred to cigarette smoking as a risk factor and said, quote: Of all the risk factors for lung cancer that have been identified, none is more strongly associated with the disease compared with the greater risk than cigarette smoking.
A Mr. Bible?
Q Yes.
A No, I was not aware of that.
MR. TAUMAN: Thank you very much.
THE COURT: All right.
Thank you.
MR. WOBBROCK: We have a live witness, Your Honor.
THE COURT: Very well.
Will you call that witness, please.
MR. WOBBROCK: On behalf of the plaintiff, we call Dr. David Burns.
THE COURT: All right.
Please come up here, Doctor. Ms. Murphy will

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swear you in.

THE WITNESS: Okay. Good morning.

DAVID MICHAEL BURNS,

was thereupon called as a witness on behalf of the Plaintiff, and after having been first duly sworn, gave testimony as follows:

DIRECT EXAMINATION

BY MR. WOBBROCK:

Q You are a medical doctor, sir?

A Yes, I am.

Q Dr. Burns, would you please tell the members of the jury where your current professional employment is, where you actually work?

A Yes. I'm a Professor of Medicine at the University of California San Diego School of Medicine.

Q And what is your training, sir?

A I'm trained as a physician and as internal medicine specialist, as a pulmonary specialist; that is, a specialist in lung disease. And I have a special certificate in Critical Care Medicine.

In addition, I have a substantial background in

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public health, particularly in the area of tobacco and public health.

Q Doctor, where did you go to college?

A Went to Boston College in Boston, Massachusetts.

Q What did you major in there?

A I majored in biology.

Q And when did you decide you were going to be become a doctor?

A Oh, probably when I was six, I guess. My Dad was a doctor, and so it was kind of a natural choice. I enjoyed both science and people. And, therefore, gravitated quite naturally to medicine.

Q And where did you go to medical school, and what year did you graduate?

A Ah, I went to Dartmouth Medical School for the first two years, and then transferred to Harvard Medical School. I received my Doctorate in medicine from Harvard Medical School in 1972.

Q Did you do an internship residency and fellowship?

A Yes, I did. I did an internship and residency in medicine on the Harvard Medical Service at Boston City Hospital. I then spent two years in the Public Health Service, and followed that by three years of fellowship, training and specialty medicine; that is, internal medicine specializing in chest, pulmonary medicine, at the University

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of California San Diego in the Pulmonary Division.
Q I asked Dr. Benowitz the same question. Let's see if we can get this right.
After high school, you have four years of college?
A That's correct.
Q Four years of medical school?
A That's correct.
Q One or two years of residency and internship?
A Two, yes.
Q So now we're at ten years post high school. And then three years of fellowship?
A You're making me feel bad (laughing).
Q You have 13 years of post high school training in your areas, is that correct?
A That's correct.
Q Doctor, those areas, again, are pulmonology --
A That's correct.
Q -- and internal medicine, pulmonology being a subset of internal medicine.
A Yes.
Q Can you tell the jury what pulmonology is?
A Well, internal medicine is the non surgical management of diseases. It excludes, as well, obstetrics and gynecology and pediatrics. So we deal with adult diseases which are often chronic, long term diseases, heart

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disease, lung disease, kidney failure, infections. Pulmonary medicine is a subset of that that deals with those diseases that occur within the lungs or within the chest. They include asthma, chronic obstructive lung disease. And we often do a tremendous amount of work in the medical Intensive Care units, taking care of patients on mechanical ventilators, a machine that breathes for them in order to support them during a period when their lungs can't function normally.

Q Doctor, what sort of medical practice did you begin after you finished your education?

A I joined the faculty at the University of California San Diego Medical School in the pulmonary division. I spent about half of my time over those first 15 years or so taking care of patients, the other half of my time I spent on tobacco issues.

Q What is the National Clearing House for Smoking and Health?

A The National Clearing House for Smoking and Health was the organization in the federal government that was responsible for coordinating all of the information on tobacco related science.

Q And is that affiliated with one particular agency or department of the US government?

A Yes. It was one of the branches of the Centers

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for Disease Control, which was located in Atlanta, Georgia.

Q And were you at one time involved in the National Clearing House for Smoking and Health?

A Yes. After I finished my internship and residency in medicine, I spent two years in the Public Health Service as a medical officer with a National Clearing House for Smoking and Health.

Q And what did you do there?

A Well, I did a variety of things, but among those things were I wrote the 1975 Surgeon General's Report and prepared the 1976 Surgeon General's Report. I also assisted them in managing a large national survey on smoking behavior in the United States, and I worked with some of the people in the Bureau of Health Education on general health education issues.

Q Returning to the public health service, Doctor, what is the Public Health Service?

A The Public Health Service is that agency of the US government that's responsible for public health. It includes, for example, the National Institutes for Health, the National Cancer Institute, the Heart, Lung and Blood institute, who have responsibility for doing research on a variety of different topics, and also includes the Centers for Disease Control, which are responsible for disease prevention and control. It includes a variety of other

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agencies, including agencies on drug abuse. And those agencies that are responsible for monitoring public health, such as the Food and Drug Administration. So it covers all of those aspects of health care that aren't an individual patient-physician interaction, but, really, are the larger system questions in health care: How do we control diseases, how do we prevent diseases, how do we do science to find out what causes diseases, et cetera.

Q Does the Public Health Service come under the overall jurisdiction of the Secretary for Health and Human Services?

A Yes.

Q That's a Cabinet Office in the Office for the President, is that correct?

A That's correct.

Q Where does the Surgeon General fit into all of this? We've heard about Surgeon General Reports. Where does the -- who is the Surgeon General, and where does he or she fit into all of this?

A Well, the Surgeon General, there are actually four Surgeon Generals. There is the Surgeon General of the Army, of the Navy, of the Air Force and of the Public Health Service. While the Public Health Service is not a military branch, it actually is a uniform branch and many of the officers have functions or designations very similar to

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military officers with the exception, of course, that they're not involved in combat. So the leader of that group, the senior physician, is the Surgeon General. He is, by sort of historical precedent, become the family physician for the United States, as well. He's the person that we look to to organize information, to try and tell us what's important about public health issues, and to try and communicate that to the people in the United States.

Q I think we recently saw the Surgeon General on television occasionally when we had the Anthrax issue going on, and that was Dr. Satcher, is that correct?

A That was Dr. Satcher, that's correct.

Q And before you arrived here in Portland from San Diego, Dr. Schwarz testified just the other day, and he mentioned that he reflected on something said by a Dr. Josyln Elder?

A Yes.

Q She was former Surgeon General also, is that correct?

A That's also correct.

Q And you're Board Certified, Doctor?

A Yes. Board Certified in Internal Medicine, in Pulmonary Medicine. And I have a certificate of Special Accomplishment in Critical Care.

Q We've just heard a little bit about that, and I

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would like the jury to hear again.

What did you have to do to become Board Certified?

A We, in order to become Board Certified you have to train for a certain period of time in a certified training program that covers certain areas in that particular discipline, Internal Medicine or Pulmonary Medicine. And then you have to sit for an examination that tests all of your knowledge in those areas. And if you pass that examination, then you are then Board Certified.

Q I asked Dr. Benowitz this question, and I'll ask it to you. Is everyone in your specialty and subspecialties Board Certified?

A No.

Q Now, Doctor, are you a consultant to any organizations in your areas of specialty?

A Sure.

Q Can you name some of them, please?

A I'm a consultant to the Centers for Disease Control, to the National Cancer Institute, American Cancer Society, American Lung Association, to the Safety Commission, to a variety of groups who have had concern or interest in tobacco issues.

Q And American College of Chest Physicians?

A Yes.

Q They have a smoking and health committee?

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A They did. I'm sure they might still have one.
Q And you were involved in that from 1979 to 1984?
A That's correct.
Q Could you tell the jury what role you had in that committee?
A Well, the American College of Chest Physicians is a professional society of pulmonary physicians, cardiologists, people who deal with the heart, and surgeons who deal with both the heart and lungs. And I was on the committee for that professional group that dealt with smoking and health issues.
Q Are there other medical specialists that are involved in that committee besides those in your specialty of pulmonology?
A Certainly, there were cardiologists, cardiovascular surgeons, as well.
Q Have you been a consultant for the Office on Smoking and Health of the United States Department of Health and Human Services from 1979 up to the present?
A Yes, I have.
Q And what does being a consultant to the Office of Smoking and Health involve?
A Well, it's involved in a variety of different roles over time. Since 1975, when I authored the Surgeon General Report, I have been an author, editor or senior

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reviewer of every Surgeon General's Report that's been produced since 1975. In the years from 1978 through 1986, I was a consultant heavily involved in the editing of that volume. Since that time, I've been a consultant involved in reviewing the Surgeon General's Reports.

Q What does it mean to review the reports as opposed to being an editor?

A Well, perhaps it might be useful for me to tell you what a Surgeon General's Report is because we tend to think of a report as simply a piece of paper that somebody wrote and handed in. And this really isn't that kind of document.

Surgeon General's Report is mandated by law and transmitted by the Secretary of Health and Human Service to Congress as the official position of the US Public Health Service. As a result, it's prepared with a lot of care and a lot of redundant peer review.

The first step in the process usually is to develop an outline of content, what kinds of questions need to be addressed in the report. You then ask scientists throughout the United States to prepare drafts that include all of the science that has been published on that given area. They then send that draft in to the editors. The editors review it, make sure that it's acceptable, and send it out to a group -- as a chapter to a group of scientists

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who are content experts, anywhere from two to five people on each chapter. They review it specifically as to whether the science is valid, whether all of the science is in there, whether the conclusions that are drawn are correct, and whether there are errors of omission or misstatements in the document. That chapter never goes back to the person who originally wrote it. The editors then incorporate those changes into it.

Then the document, all of the chapters are put together, and it is sent out to a group of individuals who are broadly knowledgable on tobacco issues. They, again, review the document, specifically paying attention to whether the balance and tone and content of the document is correct. Their comments come back. They are incorporated into the document.

It is formally reviewed by each of the agencies of the Public Health Service, submitted to the Surgeon General, Assistant Secretary for Health, the Secretary for Health and Human Services, and then finally released as the official position of the US Public Health Service.

So it's really a very labor intensive, comprehensive process that is designed to produce a document that reflects the consensus of scientific thought on a given topic, what the scientific and medical communities in the United States believe to be scientifically true on these

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issues.

Q I just have some examples here, Doctor, of former Surgeon General Reports. I'm just going to ask you -- we'll just show these to the jury.

We've already stipulated these are in evidence.

This is the 1964 report.

A Right.

Q And that was the first report, is that correct?

A That's correct. And this one was a little bit different. And most of the subsequent reports have been a report of the Surgeon General; that is, they were mandated by law, produced by the office of the Surgeon General by the Office on Smoking and Health, the National Clearing House for Smoking and Health. This first report was a report to the Surgeon General of an expert committee. In 1964 -- in 1962, when President Kennedy requested of the Surgeon General, was that he form a group to look at this topic of smoking and health to answer the question. There have been considerable political controversy at that time, and they wanted to settle the question once and for all as to whether there was sufficient signs to conclude that cigarettes caused disease.

They selected 13 individuals who had no prior public statement on whether smoking caused disease or not. They were experts, but they had not been engaged in this

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area at this point. They brought them together. They allowed either the Public Health Community or the Tobacco Industry to veto anyone for any reason that was selected. No one did.

That group met for 13 months and wrote a document to the Surgeon General that defined that smoking was a cause of lung cancer for men. So this one is just a little bit different from the ones that followed it.

Q And then you became involved in 1975, is that correct?

A That's correct.

Q And as part of your work, did you review the prior work that had been done from 1964 to 1975?

A Absolutely. One of the very first things I did when I joined the Public Health Service was to read all of the prior reports.

Q And I'll just make a brief comment about those other two reports. But before I ask you that, so there has been a report, a Surgeon General Report, on some aspects of smoking and health since 1964 up until when?

A They are still producing them.

Q Okay.

A The last one was produced last year.

Q And are they on an every year basis or every other year basis?

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A They're on what we refer to currently as a periodic basis. For many years, they were every year.

Q Now, there's two there in front of you. One is 1980, and one is 1979, I believe.

A Yes. This is the '79 report.

Q That's much bigger than the other two. Could you tell us the subject of that and why it's much bigger and your involvement in it?

A Well, in 1979, Secretary Califano became concerned about the smoking and health issue, and particularly the fact that the federal government had done very little on smoking and health. One of the things that he wanted as a foundation for federal action was a comprehensive document that reviewed everything that was known up until that time on the smoking and health issue. And, therefore, the '79 Surgeon General Report was produced to review comprehensively everything we knew on the topic of smoking and health up until that time. As you can see, it's a considerable volume.

Q And the second one there in the red cover?

A This is the one that was produced the next year.

Having reviewed things comprehensively, we felt -- or the Office on Smoking and Health felt that it would be very useful to take an in-depth look at certain topics. So in 1980, they looked at the question of the health

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consequences of smoking for women. There had been some question up until that time as to whether the disease consequences somehow spared women or were less for women. And in the looking at the science, it turned out that that wasn't true, and that is, obviously, then, a very important scientific piece of information to get in front of the public. So the 1980 report was on the health consequences for women.

Subsequent reports have been on specific topics focusing in detail on those topics.

And I might add, I was an editor for both the '79 and the '80 reports, as well as the ones produced up until 1986.

Q We're going to talk more about the Surgeon General Reports, Doctor. I want to go back to some of your general background and experiences a little bit.

From 1980 to 1997, were you the director of respiratory therapy at your medical school?

A Yes.

Q What does that mean; what is respiratory therapy?

A Well, respiratory therapy is that part of the care delivered in the hospital that involves the management of mechanical ventilation, machines that breathe for people. Management of the delivery of the delivery of oxygen to people both in the Intensive Care unit and outside, and

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management of those treatments that are specific to lung disease, things like the delivery of medicines to help open up your airways, delivery of treatment that help you clear phlegm from your lungs, et cetera.

Q So, Doctor, in addition to being an author and a scholar and assisting the US government in the Surgeon General Reports, do I take it that you've had extensive hands-on experience treating patients?

A Yes, I have.

Q And have you also, then, as part of your role as a professor, or at the medical school -- by the way, are you a full professor?

A Yes, I am.

Q As part of your role at the medical school, did you also, then, train other doctors in how to treat patients?

A Yes. One of my responsibilities is to teach both medical students, interns, residents, and fellows about the areas of lung disease that I specialize in, particularly the area of lung physiology or how the lungs work.

Q And did you also serve on the Research Advisory Board for the study of smoking behavior and prevention at the John F. Kennedy School of Government at Harvard University from 1984 to 1990?

A Yes, I did.

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Q And what did that involve, sir?
A Well, tobacco is one of those issues that cuts across a broad range of areas. It includes, obviously, the basic science kinds of questions: What's in smoke, what kinds of diseases does it cause, epidemiology, the study of causation of disease in people. It also includes behavior: Why do people smoke, how do you get people to quit, what helps people be successful when they try to quit. It includes areas of public policy: How do you regulate the sale of tobacco, how do you restrict where smoking is allowed or not allowed, what's the appropriate tax policy on tobacco. It involves economics and a variety of other disciplines. So -- and there is an important role for government at all levels to play in trying to control the epidemic of tobacco related diseases.
As a result, the Kennedy School of Government formed a group that was specifically intended to look at what role a government could play, should play, ought to play in the issue of tobacco. And I was on their Research Advisory Board to help them design and develop the types of research that they conducted.
Q Have you also been involved with the American Cancer Society?
A Yes.
Q In what positions there and concerning what

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subjects?

A Well, I've had a variety of positions with the American Cancer Society. I've been on their National Tobacco Committee, I have been the president of the local unit of the American Cancer Society in San Diego. At the state level, I have been Chair of their Research Committee, and have worked closely with them on a variety of tobacco issues helping them design the programs that they have to assist people on both preventing initiation of tobacco use, as well as trying to assist people in their efforts to quit.

Q We're going to talk more about the National Cancer Institute in a few minutes, Doctor.

But what is the difference between the American Cancer society and the National Cancer Institute? We've heard about both of them. What are the difference between those two organizations?

A Well, the American Cancer Institute -- American Cancer Society is a voluntary health agency; that is, it's not part of the government in any way. It is the organization that we give money to, and they take that money and they fund research with it, they conduct programs, they help individual patients with cancer.

One of the programs that they do that I think is really a remarkable achievement is that they send people out to take people to and from chemotherapy, to assist them in

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getting treatment. They also have programs that assist women who have had mastectomies, to adjust to the very complicated psychological and physical changes that result from mastectomy. And they are women who themselves have had mastectomies and, therefore, can give a very real, personal dimension, something that is much harder to do within the confines of a health care delivery system.

And, therefore, a voluntary health agency like the American Cancer Society is able to do things that we can't do simply by providing health care resources.

Q Back to the actual hands on doctor work that you do, are you a member of the society of Critical Care Medicine?

A Yes.

Q American Thoracic Society?

A Yes.

Q The American College of Chest Physicians?

A Yes.

Q And the American Public Health Association?

A Yes.

Q Can you just generally tell the jury what these organizations are and what they're all about?

A Well, in almost every area or professional specialization, there is a group that brings together physicians and scientists who are interested in that, to

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display research, to present research, and to exchange information on those individual topics. And they usually have two functions: One is a sustaining function of organizing and transmitting information on a specific topic. For example, they will have journals that public research articles. And they usually have national meetings where they bring together all of the individuals who are interested in the topic and have presentations on specific aspects of lung disease or treatment or variety of other issues that are focused on the interests of that professional organization. And so there are several organizations that is I belong to that have somewhat different, but often overlapping, professional interests.

Q Doctor, you have published in the professional literature?

A Yes, I have.

Q How many times do you think, sir?

A Ah, I think the last time I looked at my CV it was over 120 articles.

Q And those are peer reviewed articles, most of them?

A Most of them are peer reviewed. Some of them are chapters in books that have a slightly different kind of review. Many of them are involved in the Surgeon General Reports.

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Q Briefly -- I think the jury heard this from Dr. Benowitz, but it was a long day when he was here.

Tell us a little bit about what peer review is one more time, please.

A Well, peer review is the process by which we balance out the individual enthusiasm and potential biases of the person who did the research with someone else looking at it to say: Well, did what they presented accurately reflect the science; were the conclusions truly based on what they did; was the way they did it correct and method logically sound? And so when an articles comes into a journal, they then send it to two or three peer reviewers who then send back comments to the editor of the journal. The editor then makes a decision to either accept or reject the article. And if they accept the article, they usually accept it insisting that the author respond and modify the article based on the recommendations of the peer reviewers.

So it's a means of making sure that -- that the author's opinions don't get into print without somebody else looking at them to make sure that they're sound.

Q Doctor, have you in addition to having your own articles peer reviewed, have you been a peer reviewer?

A Sure.

Q How do you avoid having the author call you up and say: Dr. Burns, come on, pass this article, make sure it

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gets published. I need this article to be published. How do you prevent those kinds of pressures?

A Well, peer review in most journals is usually anonymous.

Q I see.

A Sometimes you have the option of disclosing your name. But certainly the editor of the journal selects the reviewers, not the author. And those reviewers are usually kept anonymous, particularly prior to the time the article is either accepted or rejected by the journal to prevent exactly that kind of pressure from coming to bear.

Q Now, in addition -- well, of those articles that you have written, Doctor, what area could you say that they mostly concentrate in?

A Most of them are concentrated in the area on tobacco and health.

Q But have you also written articles regarding blunt chest trauma?

A Yes.

Q Neuromuscular -- let's go back.

What is blunt chest trauma?

A Well, blunt chest trauma is when you are hit in the chest by an automobile. It derives originally from the old days when someone was kicked in the chest by a horse. But more recently, it's much more common for you to be hit

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by a steering wheel, for example, or by an automobile, or even in certain instances by heavy objects of one type or another in a construction accident. That's differentiated from penetrating chest trauma, which is a knife or a gun wound to the chess.

Q And have you also written on neuromuscular disease, spinal cord injury and the mechanical ventilation of pulmonary patients?

A Yes.

Q And as part of your work in pulmonary medicine, do you unavoidably get an understanding of the function of the heart and how it relates to your specialty?

A I wouldn't say "unavoidably". Despite our interest in the lungs, we actually care about the heart, as well.

Q All right.

Doctor, have you written an article in the Journal of Respiratory Care Practitioners, the title of which is: The Health Effect of Cigarette Smoking, the Respiratory Therapist's Role as Educator?

A Yes.

Q Could you just give us a brief summary of what kind of issue that article concerns itself with?

A Well, as I said, I ran the Respiratory Therapy, Respiratory Care Department at the University. And one of

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the things that happens is that many of the people who need that kind of treatment, who need oxygen, who need help raising their secretions are cigarette smokers because cigarette smoking damages the lungs. And, therefore, that represents a real opportunity for a respiratory therapist who is going to spend some time with that patient, to talk to the patient about their smoking, to offer them advice as to how they could successfully quit if they want to quit. And, perhaps, to encourage them to make the effort, once again, to try to quit smoking. And so what I have worked with the American Association for Respiratory Care on that for several issues, and one of the things that I did was to write an article that described the role that the respiratory therapist could play as an educator of the patient, particularly around the tobacco issue.

Q So have you, yourself, also studied, in addition to this article other, um, areas and issues relating to smoking cessation as part of your profession?

A Absolutely. One of the areas that I've spent a great deal of time on in the last several years has been the area of smoking cessation, particularly how we can develop comprehensive approaches to assist people to quit, rather than simply the more narrower approaches of a physician in the physician's office saying, you know: Stop smoking, here is some medicine. It's really a difficult thing for people

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to do, and so we need to approach it from a broader perspective of providing more support to those people when you are trying to quit.

Q Did you publish an article in 1992 called Trends in Physicians Giving Advice to Stop Smoking?

A Yes.

Q And did you also publish an article in the Journal of the American Medical Association, the title of which: Does Tobacco Advertising Target Young People to Start Smoking?

A Yes.

Q What was the thrust of that article?

A Well, as I'm sure --

MR. PHILLIPS: Objection, Your Honor. This is beyond the scope of the witness' expertise. He's not being offered as a marketing witness.

MR. WOBBROCK: It has nothing to do with marketing, Your Honor. It has to do with this doctor's area of specialty. It was published in the Journal of American Medical Association, which is a peer review journal.

MR. PHILLIPS: Your Honor, they have a marketing witness. The title was obviously in marketing.

THE COURT: I think I will overrule your objection at this time, counsel.

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Proceed, please.
BY MR. WOBBROCK:
Q Could you tell us the thrust of that article then?
A One of the principle concerns about the initiation of cigarette smoke is the question of the influence of tobacco advertising promoting kids to start smoking. This article looked at the relationship between children's perception of advertising and the changes in smoking behavior. Specifically, what we looked at was the age at which people recognized Marlboro and Camel as the most common form of tobacco advertising that they saw. And what they showed was that particularly for Camel, the frequency with which they reported more -- or Camel as being the most frequent form of advertising increased as we went to younger and younger and younger children.
Q Doctor, as part of your work in the area of smoking and health, have you also extensively reviewed internal tobacco company documents, including Philip Morris documents, to provide a context and a substantive expansion of your understanding of the issues relating to smoking and health?
A Yes, I have.
Q Doctor, I now want to talk to you about the history of smoking.
A Okay.

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Q And with Mr. Tauman's assistance, we will use a viewer here and something will be put up on the screen.

I take it, Doctor, you have studied extensively tobacco use in the United States?

A Yes, I have.

Q Are you familiar with the history of cigarette smoking in this country and how it has affected the health of smokers?

A Yes.

MR. PHILLIPS: Pardon me, Mr. Wobbrock.

Your Honor, I'm going to object to this line -- excuse me, Mr. Tauman.

MR. TAUMAN: Oh, sorry.

MR. PHILLIPS: We just listened to Dr. Whelan's testimony about the history on smoking. This is cumulative, and we shouldn't have every witness doing the same thing over again. We just had a witness spend a couple of hours yesterday talking about the history of smoking, and it sounds like Mr. Wobbrock wants to have another couple of hours with Dr. Burns doing exactly the same thing. It's cumulative.

THE COURT: All right. Let the Court hear part of the testimony because she did give us a view of history of smoking. His view might be somewhat different because of the different training that they're coming

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from. And let's just find out. And if it is the same thing, then we'll tell the jury to just accept what they heard yesterday and quit with that. But let us see if he has a different perspective.

MR. WOBBROCK: I'll tell you this, Your Honor. I guarantee the jury and the Court this will not be two hours on the history of smoking in light of yesterday.

THE COURT: Oh. I see.

THE WITNESS: Although I have been known to go on.

(laughter in courtroom)

BY MR. WOBBROCK:

Q I'm going to ask you to truncate this a little bit, Doctor, in light of Dr. Whelan's testimony.

So with the help of this exhibit that Mr. Tauman is going to put up, and that would be -- if Ms. Murphy will tell us, I think it's about 476, something like that.

THE CLERK: You're correct.

MR. WOBBROCK: 476, Mr. Tauman.

Q With the help of this, can you just tell us the history of smoking in this country, when the smoking first started and when the health effects of smoking were first observed. And we'll talk about another exhibit, the prevalence of lung cancer, before and after cigarettes were popular, that sort of thing.

A Well, I'm sure at this stage of the trial, you've

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heard the term "an epidemic of smoking related disease". You've also in school learned that tobacco has been around a long time. Christopher Columbus, his sailors smoked tobacco with the American Indians when they arrived. Tobacco is part of the US economy, was the reason why the 13 colonies were able to be independent. So it's been around a long time.

Why is this a epidemic? Well, most tobacco use, up until this past century, was in the form of snuff, where people powdered it and shoved it up their nose -- a phenomenon I've never been able to understand, but it happened -- chewing tobacco, pipes or cigars. Some of it was consumed as roll your own tobacco. And any of you who have done that know that it's not particularly conducive.

So there were some technical changes that occurred. In the 1880s, there was a machine that could manufacture cigarettes that was invented. Not much happened.

1900, they invented safety matches. And that's an important precondition to cigarette smoking because prior to that time, if you carried around matches, they could spontaneously ignite in your pocket. And that's a pretty strong disincentive to carrying them around. That was 1900. Still not much happening. 1900, the per capita consumption of cigarettes, which is all the cigarettes sold divided by

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everybody over the age of 18, was 54. A tiny number.

Q Doctor, can I interrupted you for a minute just to make sure the jury understands.

What is this red line hear?

A Perhaps I could come down.

Q Sure. And we don't have a real good pointer or you'll stand in the beam of the projector. But maybe you could stand to either side and tell them -- and point to what you're describing here. That would be great.

THE WITNESS: This is per capita consumption. This is simply all the cigarettes sold divided by everybody over the age of 18. So it's a way of getting the average for changes or increases in the size of the population of the United States.

And this is just calendar year, from 1900 through, I think, about 1999 is the last data point on this graph.

And you can see there wasn't much going on here.

1914, things bumped up. Camel cigarettes discovered mass marketing. They had a national mass marketing campaign for Camel cigarettes. Sales of Camels took off. The other cigarette companies followed suit. People began to use cigarettes.

The First World War, resulted in a tremendous increase in cigarette smoking. We mobilized males into

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the military from a rural in environment. The military was particularly good at training people to do things. They didn't have a long time to smoke, so they couldn't smoke cigars and pipes easily. The short, quick hit of a cigarette fit very well with that environment.

They climbed steadily through the 1920s. It was a downturn in 1929 with the Great Depression. But even the peak of the Depression, with up to 25 percent of US population out of work, there was only a modest fall in tobacco consumption.

And then, of course, there was a tremendous jump during the Second World War. Not only did they mobilize large numbers of males in the military, but women for the first time were mobilized from the home into the work force. And when the additional fiscal and social autonomy that came with working, one of the things what happened is that they began to smoke in large numbers.

In the early 1950s, science published studies that showed that people who smoke got lung cancer.

In addition, the scientist Ernst Wynder, painted cigarette smoke, just condensed cigarette smoke, took out the nicotine because it made the skin die, painted it on the backs of mice and they got cancers.

So you had pretty solid evidence that smoking

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caused cancer, and there was a tremendous downturn in the number of cigarettes sold because people were quitting.

In the mid-1950s, tobacco companies reassured the public --

MR. PHILLIPS: Objection, Your Honor. This is speculative testimony by the witness. He is using a graph and telling the jury what the tobacco companies did in describing what the prevalence was based on. There's no foundation for this.

THE COURT: Counsel, can you lay a foundation for that, or the Court is going to --

MR. WOBBROCK: Well, I think we have, Your Honor. But I'll try -- I'll just do it again.

Q Doctor, in preparing this graph -- did you prepare this?

A Yes.

Q And your preparation of this graph, and in your work in smoking and health, I believe you previously testified that you have intensely reviewed tobacco company related documents over the years, both in connection with your work in the National Clearing House for Smoking and Health and as a professor and as a publisher of academic articles and peer reviewed articles and the subject that so informed you of the context and the substantive issues you

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are testifying about.
A Yes.
THE COURT: All right. Overruled.
Proceed, please.
THE WITNESS: The mid-1950s, two things happened. The tobacco companies began to deny the science, and they introduced filtered cigarettes to reassure people that they could remove whatever was bad from the cigarette. Per capita consumption went right back up again.
There was another downturn in 1964 with the release of the Surgeon General Report, again showing that if you clearly communicated information to people, that there would be cessation, people would quit.
1967 through 1970, under the Fairness Doctrine for cigarette ads on television, they had to be counter-balanced by antismoking spots. And so television was used effectively to communicate a public health message about the harm of tobacco smoking and about the value of cessation. And per capita consumption declined quite briskly.
In 1970, tobacco advertising was banned on television. And with that ban, all the antismoking spots disappeared, as well, and you can see that per capita consumption rose again.

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In 1974, we begin to see a steady, not absolutely monotonous, but progressive decline in the amount of smoking. When I lecture to physicians, I am fond of telling them that I joined the Public Health Service in 1974. I don't want that date missed.

There are a few other things that happened at that same time, however, that are far more responsible than my joining the Public Health Service. And that is, cigarette smoking became socially unacceptable, or less acceptable. It began to become more difficult for smokers to smoke everywhere: In the office, at work, at home, in restaurants. And as that social unacceptance progressed, we also began to develop more effective ways of dealing with people who are trying to quit and helping them to be successful. We developed medications, patches and gum that you're familiar with. We developed an understanding that smoking cessation wasn't just treating an infection with an antibiotic. We needed to look at it as a long term product. People needed to try multiple times before they would be successful. We needed support for more than just a single recommendation from a physician, from the broader society. We needed systematic approaches so when somebody wanted to quit, it was a -- there was assistance available to them to help them, rather than

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relying just on the them coming to a physician or them deciding that they wanted to quit on their own and trying to be successful.

And since that time, we've had a steady decline to the point now where per capita consumption is at a level we haven't seen since World War II.

BY MR. WOBBROCK:

Q Doctor, when we look -- I told the jury at one point over 50 percent or about 50 percent of the men in this society, in this country, smoked. Where would that be on that graph?

A Well, at this point in time, in the 1950s, 50 percent of adult males were smoking. What is perhaps even more remarkable is of men born between 1910 and 1930, that age group that would have served in the military during the Second World War, between 70 and 80 percent of those men became cigarette smokers.

Q Now, we're going to ask you about another graph, so I'll just ask you to stand up there.

A Okay.

Q Has there been an effort by you as a researcher and others to correlate lung cancer with the use of cigarettes?

A Yes.

Q Okay.

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I'm going to ask you what this chart shows, and this would be 477, I believe.

A Well, we have seen the change in cigarette use. But there was a lot of tobacco used anyway. What happened that created an epidemic? What happened was that the character of the tobacco used in cigarettes was different. The most important difference was it had a different amount of acid in it. If you smoke a pipe or cigar, the acid content tends to be very low. And as a result, the form that nicotine is in can be absorbed through your mouth and you can get plenty of nicotine by just holding the smoke in your mouth.

Q Excuse me, Doctor. Would it be fair to say that pipe and tobacco smoke is, then, more basic, more base?

A More basic.

Q Because the pH is higher. Because we talked about that earlier.

A Yes.

Q Thank you.

A Cigarette smoke tends to be acid and because it's acid, the nicotine can't easily be absorbed into the mouth. So you need to inhale it into the larger absorptive surface of your lungs in order to get the nicotine into your bloodstream to reach your brain. So the difference is that people who smoke cigarettes almost always inhale. With that

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inhalation, they get much more exposure of the lung to the toxic combustion, burning products, of the tobacco smoke.

And the reason why we call this an epidemic of tobacco related disease is shown on this graph. This is just the same graph I showed you before of per capita consumption. This is lung cancer death rates for males in the United States. In 1910, or about then, an article was published that reviewed everything that was known in the world scientific literature about lung cancer, and they concluded they didn't really know a lot. But one of the things they knew was that it was one of the rarest of human diseases. One of the rarest.

In 1920s, Alton Oschner, who I met and who told me this, was in medical school. He's one of the Deans of cardiothoracic surgery, one of the inventors of cardiothoracic surgery in the United States. His class in medical school was called out of the dorm at night to witness an autopsy because this patient that was being autopsied had lung cancer, and they might never again in their professional lives see another case of this rare disease. His first year in practice, he saw four cases of lung cancer, and he thought there must be an epidemic. Currently, a thoracic surgeon who only saw four cases of lung cancer in a year would feel that he had no practice. It is now the most common cause of lung cancer death in both

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men and women.

By the 1950s, scientists had recognized that we had an epidemic, a rapidly changing rate of lung cancer in the population. And it continued to grow with a lag of about 20 years of per capita consumption peaking in the late 1980s, early 1990s.

Women didn't smoke here. They didn't start smoking until the 1940s in large numbers. And for a long time, we thought they might be protected. As it turns out, however, what they were protected from was cigarettes, not lung cancer. And beginning in 1960, they have had a dramatic rapid rise in lung cancer death rates.

In the mid-1980s, it passed breast cancer as the largest cause of cancer death in women. This led scientists to say we have an epidemic, we need to find out what caused it. And ultimately what they found was that it was cigarette smoking that caused this epidemic.

MR. WOBBROCK: Just a couple questions, Your Honor, and then it might be an appropriate time for the morning break.

THE COURT: Certainly.

BY MR. WOBBROCK:

Q Doctor, kind of putting that all together, how many people die prematurely of smoking related disease each year in the United States?

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A Approximately 400,000 people die prematurely each year from cigarette smoking.
Q And how many premature deaths in the United States has smoking contributed to in the 20th century, 1900 to the year 2000?
A Well, certainly from 1953 onward, the number is over 15 million people in the United States alone.
Q And in that same century, 1900 to 2000, how many people died in all the wars as soldiers and sailors, men and women serving their country?
A About 10 percent of the number of people who died from smoking related diseases.
Q About a million and a half people?
A About a million and a half people.
MR. WOBBROCK: Thank you, Your Honor.
This might be an appropriate place to break for the morning break at this time.
THE COURT: We will take our break at this time.
Members of the jury, please return to the jury room. The Court is out of session.
You may step down, if you wish.
THE WITNESS: Thank you.

(Court was in recess at 10:40 a.m.)

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(Estelle Keating reports next portion of proceedings)

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County of Multnomah

I, Charlotte A. Powers, Official Court Reporter of the Circuit Court of the State of Oregon, Fourth Judicial District, certify that I reported in stenotype the foregoing proceedings in the above-entitled case.

I further certify that my stenotype notes were reduced to transcript form by Computer-Aided Transcription under my direction.

And I further certify that pages 2 through 76 contain a full, true, and accurate record of my stenotype notes.

Dated this 28th day of August, 2002, at Portland, Oregon.

Charlotte A. Powers, RPR, CSR
Official Court Reporter

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